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ABSTRACT

The developmental process and rapid growth of a library create various problems which surround the services offered to patrons. The library should possess accurate information concerning all aspects of its operation and be aware of its measure of usefulness, thus necessitating periodic re-appraisal of the existing situation and assessing questions concerning the attitude and behaviour of the user population, and the efficiency with which services are performed. Our study attempts to determine the effectiveness of the use made of the Industrial and Management Engineering Library at the Technion - Israel Institute of Technology, and is the first research of its kind to be conducted by this library. Functions of the library are outlined, problems presented, and the pattern and purpose of library visits are investigated. An attempt is made to explore, analyze and describe, key aspects in the provision and use of services rendered to faculty, staff and students. Chapters deal with data collection by means of two surveys, explain the sample chosen, and methodology of the study. Results are analyzed by means of numerous tables and, where necessary, discussions conclude the sections. The appendices include questionnaire examples and other relevant material used in the survey, as well as statistical tables. (Author)

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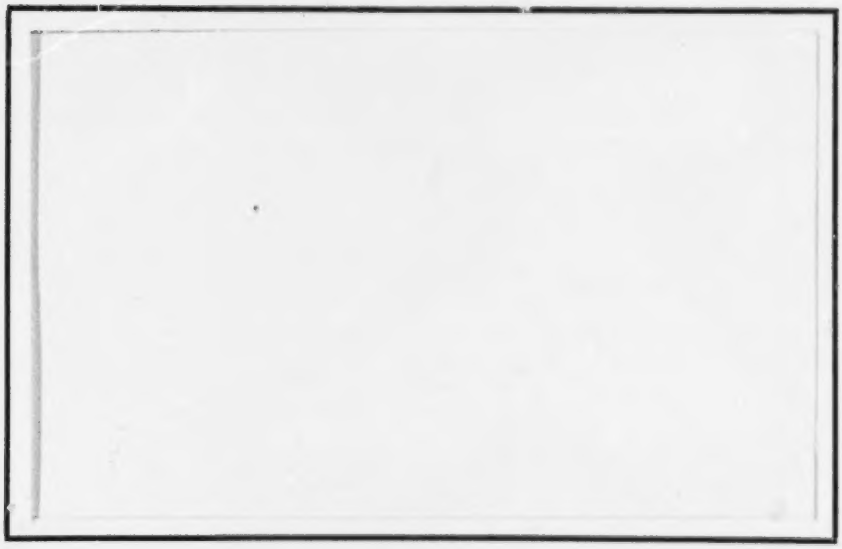

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"DETERMINING THE EFFECTIVENESS OF THE USE MADE OF THE INDUSTRIAL AND MANAGEMENT ENGINEERING LIBRARY"

by

RUTH JOFFE

Technion - Israel Institute of Technology

July, 1971

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DETERMINING THE EFFECTIVENESS OF THE USE MADE OF THE INDUSTRIAL AND MANAGEMENT ENGINEERING LIBRARY

CHAPTER I. INTRODUCTION

The developmental process and rapid growth of a library, as in the case of any other modern organization, create various problems which surround the services offered to patrons. Rather than rely on an estimated guess, the library should possess accurate information concerning all aspects of its operation, and be aware of its measure of usefulness. It is therefore wise, to periodically re-appraise the existing situation and assess questions concerning the attitude and behaviour of the user population, and the efficiency with which services are performed. Such an evaluation can only be carried out by conducting a suitable survey. Our study attempts to determine the effectiveness of the use made of the Industrial and Management Engineering library, at the Technion-Israel Institute of Technology. In order to gain a better understanding of the library's framework, we firstly outline its functions and present the problems to be examined. The following chapters delineate the data collected, the type of sample selected and investigation methods used. Results are analyzed by means of numerous tables and where necessary, discussions conclude the sections. The appendices include questionnaire examples and other relevant material used in the survey, as well as statistical tables.

1.1 Functions of the Library

A specialized academic library must strive to meet the requirements of its users and design services which provide these needs in an efficient and effective manner. The functions to be considered are briefly outlined by Neal[14] as:

(a) Providing all printed material likely to be required, whether for reference or for borrowing.

(b) Developing the use made of the library and training readers so they can derive maximum benefit from its facilities.

(c) To assist all those using the library.

Circulation functions are additional major factors which should be considered. These are aptly defined by Lyle[11] as making books easily accessible to all readers and supplying pertinent material when the book desired is not available in the library; giving instruction in the use of the card catalogue and its aid as a key to all library resources; and, interpreting the library through friendly and efficient service to all users. Two additional important considerations which are viewed as part of the library's general structure are:

(a) For the faculty library to become an indispensable section of the departments' educational programme. The essentials fundamental to successful operation of the library and the co-ordination of its programme with that of teaching and research, have been clearly emphasized by Wilson and Tauber[21], but will not be dealt with comprehensively in the current work as they include a large portion of the technical services which are too numerous for analyzing in a study of this nature. Our investigation is concerned with user services only, and attempts to measure their efficiency and effectiveness.

(b) In the university context one of the library's major functions is to provide direct assistance to the problem-solving behaviour of its users. Buckland, Hindle, Mackenzie and Woodburn[2] maintain that such a goal can only be achieved if the relative importance of differing user problems can be assessed, if efficient methods of assistance can be determined, and if the likely effectiveness of help can be evaluated. In our opinion, user's attitudes greatly influence library organization, its environment, and decision making, therefore, an essential step is to check customer's satisfaction regarding available sources and services.

1.2 The Problem Under Study

The vast increase in the number of students attending undergraduate and graduate courses, the constant increase of staff and researchers, and the rising flow of new literature (the 'information explosion'), all cause

numerous organizational and administrative difficulties which call for a re-examination of the nature, purpose and management of academic libraries. These problems are very apparent in cases such as ours, where a faculty library is called upon to perform the functions of a special library, a research library, and an information centre, simultaneously. Wright[22] finds it unsatisfactory to differentiate between a special library and an information centre, but our experience indicates that operating such a complex organization results in a certain amount of deficiency between what the library can supply and what the user demands. This is caused by the need for providing suitable resources and services to a user population with varying interests. Such problems have been dealt with by Clapp[4] who sees difficulties of the research library arising from the gap that exists between what users require and what the library can supply. Therefore, in order to overcome these problems and co-ordinate functions to satisfactorily meet demands, an effective procedure for implementing qualitative and quantitative services must be formulated. Any organizational changes and improvements can only be incorporated after having firstly checked the efficiency and utility of existing facilities.

In fact, Bogardus[1] rationalizes that a very important part of the survey is evaluating the number and character of special services offered, and the efficiency with which they are performed.

1.3 Aim of the Study

Considering the library's functions and the problems surrounding them, we aim at gathering necessary information to comprehensively illustrate the use made of services offered to each of our reader groups. We assume a similar approach to the one raised by Pings[16] where the point of view adopted was that of the user. The library activities tested are those which a user sees as a direct service, or as a policy which would affect his time, effort or convenience in using the library. Services offered specifically to academic staff are also evaluated.

Our hypothesis is that some organizational changes to certain existing services will have to be made, a number of facilities will require adjustment in accordance with user demand; additional services will have to be implemented in order to cope with the volume of new literature and increasing number of staff and general users. We further assume, that results obtained from this survey, will enable greater accuracy in future decision-making regarding all aspects of the library's organization. Data collected will also serve as a directive for estimating and planning library growth and development.

CHAPTER II. DATA COLLECTION

Contemplating the special problems accompanying the survey process in academic libraries, we stress what Gormley[9] terms as a necessity, for realizing that no guideline could possibly exist which would apply uniformly to all such academic libraries. It was therefore necessary to select suitable methods for checking our specific queries, results of which would enable our measuring user's satisfaction, and determining the effectiveness of library use.

Our procedure was guided by Pings's theory[17] that any method for gathering data should be one that could be applied in an operating library by the staff, and that methods used, and the resultant analysis of data, must have meaning to librarians, non-librarians and administrators.

Hence, all information for this research was gathered by the permanent library staff on the basis of real day-to-day problems, and without the appointment of an external surveyor.

Information was collected in two stages with the aid of carefully designed questionnaires. The project's first phase was carried out by means of a spot survey within the library. The second phase which formed the main survey, relied explicitly on the detailed questionnaires distributed to all staff members and a sample of students. We assumed that

results obtained from a spot survey involving participation of all library users, would supplement data collected from the main survey. It would also afford a more realistic picture of the nature and frequency of library visits. Lyle[12] describes this method as being used by other libraries for similar surveys, and was stimulated by an example of the Dartmouth study in the middle fifties. Another type of on-the-spot survey was directed by Buckland, Hindle, Mackenzie and Woodburn[3] at the University of Lancaster Main Library Bailrigg, in 1968.

2.1 Spot Survey - The Reader Questionnaire

The main objective for conducting the spot survey was to determine the type of user frequenting the library and to establish which of the four classes of customers - staff, graduates, undergraduates, or external readers - made predominent use of its facilities. Knowledge concerning user's faculty affiliation would reveal which section of the population demanded greatest amount of service - those belonging to Industrial and Management Engineering, other Technion faculties, or external readers. Total amount of daily users could also be ascertained.

Checking the purpose for each visit to the library, would clearly indicate circulation trends; use made of resources; the pattern of reading room utilization; busy periods; and whether peak hours occurred during morning or afternoon sessions.

2.2 Main Survey - Faculty and Student Questionnaire

The faculty and student questionnaires included 58 comprehensive queries relating to given services and existing material. Examining patterns of user behaviour would establish the reader's status (i.e. academic staff, assistant, graduate or undergraduate student). This variable forms the basis for most of our comparisons. For ensuring speedy circulation performance and information-handling operations, we view the length of time customers wait for service to commence upon arrival at the library.

User's satisfaction rate for the undermentioned, is measured:

a) Convenience of present closing times.

b) Organizational structure and utility of the card catalogues and classification system.

c) Borrowing facilities

d) Scope of library collection and journal holdings.

e) Scope of existing research material.

f) Efficiency of advance order system.

g) Efficiency with which library staff handles requests.

We also inspect the pattern of reading room utilization, and the necessity, if any, for instructing students in the use of libraries and information searching.

Additional investigation enables measuring the frequency with which readers borrow and/or return books; look up information for research; and make use of other libraries.

We examine the extent to which readers refer to information sources such as abstracts, subject bibliographies; reprints; technical reports; special collections; yearbooks; theses, university catalogues and films.

2.3 Main Survey: Special Services Pertaining to Staff

The value of a number of services offered only to staff is reviewed. We refer to the weekly acquisition abstracts - a service unique to the Industrial and Management Engineering library; and assistance given in translating and editing research papers written by staff. It was also important to investigate whether any library inadequacies had obliged restriction of class assignments, and, whether existing material (not specifically ordered by staff) had aided in the preparation of lectures, seminars and course bibliographies.

CHAPTER III. THE SAMPLE

Our decision for choosing between complete and partial coverage of the population to be surveyed was prompted by the fact that sampling, as compared with complete enumerations, reduces costs, allows for greater speed and accuracy, Cochran[5]. A further example depicting suitability of random sampling for library research is given by Drott[8].

The target population is heterogeneous and can be divided into the following strata

(a) Undergraduate students
(b) Graduate students
(c) Staff (including assistants).

These strata form subpopulations which are more homogeneous than the whole population. It would be interesting to compare these three groups. Stratum (c) consists of individuals who obtain special services over-and-above those given to strata (a) and (b) therefore, the entire stratum was surveyed.

A stratified sample of size 100 was taken from strata (a) and (b). It can be assumed that a proportional allocation gives:

$$N_a = 457 \qquad n_a = \frac{100 \times 457}{795} = 58$$

$$N_b = 338 \qquad n_b = \frac{100 \times 338}{795} = 42$$

$$\text{Total} \quad 795 \qquad \text{Total} \quad 100$$

The sample for surveying the 100 student population was selected from alphabetically arranged name lists and by using random digital tables compiled by the Rand Corporation[18].

CHAPTER IV. METHODOLOGY OF THE STUDY

Preliminary proposals, discussions, planning for the research and studying the literature took several months before the project was put into operation. The questionnaires were drafted and revised numerous times and useful approaches for their compilation were adapted from Tauber and Stephens[19], Columbia University[6], Moser[13], Wallace[20] and Payne[15]. Suggestions and comments from various faculty members proved most helpful for the final revision of the material.

The survey was initiated in the second half of the 1971 academic year, at a time considered "normal"* regarding user frequency and behaviour.

4.1 Conducting the Spot-Survey

The first stage of our field work was devoted to the spot-survey which was conducted within the library from March 23 until April 6. The Reader Questionnaire was designed in a concise manner in order to save user's time when completing the form. Special provision was made for coding replies, thus enabling easy data processing (see Appendix A).

Library users were requested to complete the questionnaire upon each visit. Readers entering the library more than once during a particular day, were asked to record their activities during the second or subsequent visit, on a new questionnaire. The completed forms were dropped into a box provided for that purpose. For ensuring full survey participation, it would have been ideal to personally supervise completion of the questionnaires. However, this method would greatly increase costs, and we therefore relied purely upon the reader's cooperation. Hence, we estimate an approximate 5 percent non-participation.

A total of 1058 visits was recorded during this period. Due to the large sample, we assume that variances of the proportions based on

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* Our definition of "normal" time is the period beginning with a new semester and terminating prior to examinations, without vacation interruption.

that sample, are comparatively small. Thus, in the tables presenting spot-survey results, confidence limits were not provided and only estimated proportions were given.

4.2 Conducting the Main Survey

Questions posed in the separate faculty and student questionnaires were almost identical (see Appendix B). However, those addressed specifically to staff, included several items which were irrelevant to students. Minor alterations to the student questionnaire are explained in Appendix D. Provision for coding replies, thus enabling easy data processing, was provided, and a covering letter accompanied all questionnaires. (see Appendix C).

Due to administrative delays, approximately two weeks elapsed between termination of the spot survey and distribution of the questionnaires on April 20.

Within the first week after mailing the questionnaires, 85 answers were received. On May 3, a follow-up letter (see Appendix E), together with a copy of earlier material, was despatched to non-respondents. This resulted in receipt of additional replies which, by May 21, totalled 126 from the 201 questionnaires sent out originally.

The following figures sum up the sample sizes and participations in the main survey:

Strata	a Under graduates	b Graduates	c1 Staff	c2 Assistants
Total population	457	338	49	52
Sample Size	58	42	49	52
Number of Respondents	25	19	37	45
%Responses out of Sample	43%	45%	76%	87%

Since it was not possible to obtain replies from all those included in the sample, a certain amount of bias might affect our results. This is especially important when analyzing results received for the graduates and

undergraduate strata, where the sample was only 13 percent of the population and the response percentage was less than 50.

Data collected from the main and spot surveys was programmed according to the BMD02S[7], and processed at the Technion Computer Centre.

For tables analyzing results obtained from the main survey, two-sided 95% confidence limits have been calculated, according to a binomial hypothesis using Hald[10]. These tables are presented in Appendix F.

CHAPTER V. RESULTS

5.1 Pattern of Library Visits

This section is based upon results yielded by the spot survey. In Table 1, attendance frequency was analyzed for the four classes of customers - lecturers (and above), graduate students, undergraduate students, and others (i.e. these who were neither staff nor students). It is evident, that from among these categories, predominent library use was made by the graduate and undergraduate groups, 41 percent and 45 percent, respectively. Lecturers (and above) i.e. staff holding higher academic positions, amounted to 12 percent of total patrons, whilst those termed as "others", were a mere 2 percent of the population.

TABLE 1

Library Visits According to User Category in the Various Faculties (Percentages)

Faculty	User Category			
	Lecturer and above	Graduate Students	Undergraduate Students	Others*
Industrial & Management Engineering	12	43	44	1
Other Technion Faculties	14	33	52	1
External Readers	0	11	43	46
Total in % Number of Visits	12 (127)	41 (433)	45 (478)	2 (20)

* Not a student or faculty member at any other academic institution.

Comparing frequency of visits according to the various faculties (Table 2), we found that within Industrial and Management Engineering, graduates were major customers, 87 percent, although use by lecturers and undergraduates differed only slightly, 83 percent and 80 percent, respectively. From amoung the various faculties and external reader group, highest demand for service was recorded for those affiliated to Industrial and Management Engineering. It was nevertheless interesting to note that 15 percent of visits were made by readers from other Technion faculties.

TABLE 2

Library Visits According to Faculty Affiliation, by the Various User Categories (Percentages)

Faculty	User Category				
	Lecturer and Above	Graduate Students	Under graduate Students	Others*	Total %
Industrial & Management Engineering	83	87	80	25	82
Other Technion Faculties	17	12	17	10	15
External Readers	0	1	3	65	3
Total	100	100	100	100	100
No. of Visits	(127)	(433)	(478)	(20)	(1058)

By establishing the trend of visits according to week days, busy periods could be ascertained. Table 3 indicates that Wednesday and Monday recorded the highest rate of attendance, 25 percent and 23 percent, respectively, slightly decreasing to 19 percent on Sunday, with a further drop to 14 percent on Thursday. During these days service is rendered from early morning until late afternoon, whilst Tuesday and Friday - the two early closing days - registered a lower level of visits, falling off to 10 percent and 8 percent respectively. There is a close similarity in percentage of use during the hours in which the library is open to the

public i.e. Monday and Wednesday 7.30 - 19.00; Sunday and Thursday 7.30 - 17.00; Tuesday 7.30 - 14.30; and Friday 7.30 - 13.30.

TABLE 3

Library Visits According to Week Days, by the Various Faculties
(Percentages)

Faculty	Week Days						
	Sun.	Mon.	Tues*	Wed.	Thur.	Frid*	Total
Industrial & Management Engineering	20	25	10	24	15	7	100
Other Technion Faculties	16	13	15	27	13	16	100
External Readers	7	21	11	36	11	14	100
Total in %	19	23	11	25	14	8	100
Number of Visits	(202)	(247)	(111)	(262)	(150)	(86)	(1058)

* Early closing days.

We now consider whether busy periods occurred during morning or afternoon sessions, and on which days. Table 4 analyzes library visits according to week days as related to mornings and afternoons.

TABLE 4

Library Visits According to Week Days, by Morning and Afternoon Sessions
(Percentages)

Week days	Session		
	Before Noon	Afternoon	Total %
Sunday	18	20	19
Monday	17	34	23
Tuesday*	12	8	11
Wednesday	25	24	25
Thursday	14	14	14
Friday*	13	0	8
Total No. of Visits	100 (652)	100 (406)	100 (1058)

* Early closing day.

Highest rate of attendance during morning sessions was on Wednesday, 25 percent. However, in comparison, most afternoon visits were carried out on Monday, 33 percent. Sunday also indicated greater afternoon use, 20 percent, as against 18 percent during the morning. All other days showed a definite tendency for morning visits.

Examining the convenience of present closing hours resulted in 39 percent of users being more than quite satisfied, which almost equals the 40 percent of customers who were fairly satisfied. 19 percent of readers found some cause for dissatisfaction.

DISCUSSION

In summarizing our investigation concerning the pattern of library use, we reiterate that data for this section was gathered by the spot-survey method. Information related to each individual entering the library notwithstanding the possibility that the same person might have demanded service on several occasions during one day. Therefore, we presume that the amount of replies received here is larger than the number of actual customers. In comparison, data for the main survey was collected from a predetermined number of users who could only reply to each question once.

Similarity in the pattern of library visits leads us to believe that by extending hours on early closing days (i.e. serving the public until 19.00 hours daily - except Friday) would probably result in the same rate of visits as was presently recorded for late closing days. Moreover, a general increased attendance might well be expected. We also feel that the 40 percent of fairly satisfied customers warrants serious consideration for changing present closing times.

5.2 Circulation and Using Book Facilities

(a) Circulation:

Our previous assumption that circulation plays a significant role among the various factors motivating visits to the library (see section 1.1), has been proved by results illustrated in Table 5. From the total

number of customers surveyed, 46 percent called at the library for the sole purpose of borrowing and/or returning a book. Combining this activity with other tasks, increased circulation to over 50 percent of the reasons for library visits.

TABLE 5

Purpose for Library Visits According to Week Days
(Percentages)

Purpose of Visit	Week Days						Total %
	Sun.	Mon.	Tues.	Wed.	Thur.	Frid.	
Borrow and/or return a book	48	47	44	46	43	52	46
Reading library material in reading room	28	23	22	22	21	38	24
Borrow and/or return a book and reading library material in the reading room	5	4	6	5	1	2	4
Using reading room for studying own notes	11	17	16	12	21	4	14
Borrow and/or return a book, and using reading room for studying own notes	1	1	7	1	0	0	1
Using reading room for studying library material and own notes	2	4	4	5	6	0	4
Borrow and/or return a book, using reading room for studying library material and own notes	0	1	1	1	1	1	1
Other reason	6	5	4	6	7	2	5
Borrow and/or return a book and visit to library for other reason	0	0	0	1	0	0	1
Total	100	100	100	100	100	100	100
Number of visits	(202)	(247)	(111)	(262)	(150)	(86)	(1058)

Reverting to Table 5, which also deals with circulation trends according to week days, we find that borrowing activities were at their peak on Friday and Sunday, 52 percent and 48 percent, respectively.

Although this study does not attempt to examine loan policy, we should mention that a great number of books are loaned for short periods, i.e. over-night and before weekends. This explains the brisker loan activities during Friday and Sunday when readers borrow books for the weekend and return them on Sunday. It was interesting to note that on Monday and Wednesday only slight differences were recorded for this activity, 47 percent and 46 percent, respectively. A probable reason for this borrowing pattern could well be that since all graduates and undergraduates attend classes simultaneously on these two days, library visits also became necessary, accordingly.

(b) Use of Book Facilities

Reader's behaviour regarding the use of book facilities is described in Table 6. The significant result obtained was that 81 percent of assistants, 51 percent of staff, 23 percent of graduates and 39 percent of undergraduates, made use of these facilities at least once a week. It was interesting to note, that 19 percent of undergraduates referred to these sources "only before examinations", such pattern of behaviour being recorded exclusively for this group. Furthermore, 9 percent of staff, 5 percent of assistants, 6 percent of graduates and 12 percent of undergraduates, never used these facilities.

TABLE 6

Frequency of Using Book Facilities During Last Semester, for the Various Reader Categories (Percentages)

Book Use Frequency	Reader Category			
	Staff	Assistants	Graduate Students	Undergraduate Students
Daily	0	9	0	0
Three times a week	20	36	6	4
Once a week	31	36	17	35
Twice monthly	31	5	22	12
Once a month	6	5	33	19
Less than once a month	3	5	17	0
Only before examinations	0	0	0	19
Never	9	5	6	12
Total	100	100	100	100
Number of Respondents	(35)	(44)	(18)	(26)

95% confidence limits for the above results are provided in Table F1.

(c) Borrowing Service

The various borrowing services were dealt with as one comprehensive system and policy or regulations were not examined separately. User's satisfacting relating to existing borrowing methods are analyzed in Table 7. A high percentage of readers felt they were more than quite satisfied - 88 percent of staff, 81 percent assistants, 73 percent graduate students, and 36 percent undergraduates. Percentage of opinions concerning some dissatisfaction was comparatively small - staff 3 percent, and assistants 5 percent, with a marked increase to 13 percent by graduates and 19 percent by undergraduates.

TABLE 7

Satisfaction Concerning Borrowing Services, According to Reader Category (percentages)

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	55	38	20	18
Quite satisfied	33	43	53	18
Fairly satisfied	9	14	13	46
Somewhat dissatisfied	3	5	13	14
Highly dissatisfied	0	0	0	5
Total	100	100	100	100
Number of respondents	(33)	(42)	(22)	(15)

95% confidence limits for the above results are provided in Table F2.

(d) Advance Orders

An advance order system is operated for the convenience of students who, for some reason, do not obtain a desired book upon request. Checking the system's workability proved that on most occasions, we were able to promise supply of a book for a predetermined dated (see Table 8). Furthermore, Table 9 indicates that in over 90 percent of all cases, we fulfilled our promise and indeed supplied the book as requested.

TABLE 8

Ability to Accept Advance Orders, According to Student Category
(Percentages)

Acceptance Ability	Student Category	
	Graduate	Undergraduate
On all occasions	31	5
On most occasions	56	50
On some occasions	13	36
Rarely	0	9
Never	0	0
Total	100	100
Number of respondents	(16)	(22)

95% confidence limits for the above results are provided in Table F3.

A point worth observing is the far greater simplicity in promising advance orders to graduate students than to the undergraduate group. However, once promised, orders were supplied on all, or most occasions - 91 percent underaduates, and 94 percent graduates.

TABLE 9

Ability to Supply Advance Orders, According to Student Category
(Percentages)

Supply Ability	Student Category	
	Graduate	Undergraduate
On all occasions	56	32
On most occasions	38	59
On some occasions	6	5
Rarely	0	5
Never	0	0
Total	100	100
Number of respondents	(16)	(22)

95% confidence limits for the above results are provided in Table F4.

(e) Receiving Service Upon Arrival at Library

The speed with which customers are served upon arrival at the library is a significant factor greatly influencing user's satisfaction and time. Table 10 shows that no person was compelled to wait more than 10 minutes until service was rendered. Moreover, no priorities were afforded to customers due to their status, i.e. it made no difference whether a reader belonged to the staff or student groups - the system employed was one of "first come, first served".

TABLE 10

Time Elapsing Between User's Arrival and Commencement of Service, According to Reader Category

(Percentages)

Commencement of Service	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Served immediately	89	77	88	70
Served within 10 min.	11	23	12	26
Served after 10 min.	0	0	0	4
Total	100	100	100	100
Number of Respondents	(35)	(44)	(17)	(23)

95% confidence limits for the above results are provided in Table F5.

DISCUSSION

The fact that 30 percent of undergraduate students were not served immediately is due to the pattern of their arrival behaviour. On many occasions they appear in large groups, either during lecture breaks or when classes terminate. Therefore, a certain amount of delay until service commences is inevitable, as only one librarian is on duty at the loan desk. However, we assume that waiting time could be further reduced by suitable staff distribution at the loan desk during peak hours. This becomes especially necessary for afternoon sessions when, at present, only one libra-

rian handles both loan activities and all other requests, thus, occasionally leaving the desk completely unattended.

5.3 Journal Use

Reader's behaviour concerning journal use is detailed in Table 11. Results reveal that 46 percent of staff, 55 percent of assistants, and 19 percent of graduates, used journals at least once a week. In comparison, a high 45 percent of non-use was recorded for undergraduates.

TABLE 11

Journal Use Frequency According to Reader Category
(Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Daily	3	5	0	0
Three times a week	14	15	6	0
Once a week	29	35	13	0
Twice monthly	34	18	13	10
Once a month	9	18	6	10
Less than once a month	6	8	25	25
Only before examinations	0	0	6	10
Never	6	2	31	45
Total	100	100	100	100
Number of Respondents	(35)	(40)	(16)	(20)

95% confidence limits for the above results are provided in Table F6.

DISCUSSION

In our opinion, infrequent and non-use of journals by the student groups is not caused by any inadequacies in this area, but implies some unawareness about this material's value as an information source. Further-

more, lack of sufficient knowledge regarding how to locate the desired literature might well affect use of journals. We therefore urge that instructing students in library use and information searching be seriously considered. Such action could only serve to favourably alter the present situation.

5.4 Use Made of Information Sources

Numerous information sources bear equal (or sometimes greater) importance to books and journals and are especially sought by researchers and those involved in project work. We refer to abstracts, subject bibliographies, technical reports and reprints, all of which are available in various topics. Table 12 presents results obtained for frequency in abstract use. Only two sections of the population referred to these often, 28 percent staff and 17 percent assistants. A somewhat high percent of readers did not know such material existed - 13 percent staff, 12 percent of both the assistants and graduates, and 52 percent undergraduates. We also consider the 29 percent of graduates who never used abstracts at all, as being rather high.

TABLE 12

Frequency of Abstract Use According to Reader Category
(Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	28	17	0	0
Sometimes	38	31	24	18
Rarely	19	21	35	18
Never	3	19	29	13
Did not know it existed	13	12	12	52
Total	100	100	100	100
Number of Respondents	(32)	(42)	(23)	(17)

95% confidence limits for the above results are provided in Table F7.

If we compare the use made of subject bibliographies with that of abstracts, by studying Table 13, we find that similar characteristics in the pattern of reader behaviour exist for both information sources, except where the undergraduate group was concerned. Once again, a rather high percentage of students never used this source at all, 28 percent graduates and 17 percent undergraduates.

TABLE 13

Frequency of Subject Bibliography Use According to Reader Category (Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	15	19	6	9
Sometimes	38	40	50	13
Rarely	29	14	17	18
Never	6	21	28	18
Did not know it existed	12	7	0	44
Total	100	100	100	100
Number of Respondents	(34)	(43)	(18)	(23)

95% confidence limits for the above results are provided in Table F8.

Results concerning the utility of reprints and technical reports, are presented in Tables 14 and 15, respectively. By examining these two sources, it is evident that for all user categories, reprints were in greater demand than technical reports.

In both cases, a high percentage of the undergraduates admitted having no knowledge about the existence of this material.

TABLE 14

Frequency of Reprint Use, According to Reader Category
(Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	24	8	12	5
Sometimes	38	35	35	19
Rarely	27	43	12	10
Never	3	15	35	19
Did not know it existed	9	0	6	48
Total	100	100	100	100
Number of Respondents	(34)	(40)	(17)	(21)

95% confidence limits for the above results are provided in Table F9.

TABLE 15

Frequency of Technical Reports Used, According to Reader Category
(Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	6	3	0	0
Sometimes	24	3	6	8
Rarely	18	18	25	21
Never	39	58	56	25
Did not know it existed	12	20	13	46
Total	100	100	100	100
Number of Respondents	(33)	(40)	(16)	(24)

95% confidence limits for the above results are provided in Table F10.

DISCUSSION

Due to greater involvement in research work, it was understandable that most frequent use of information sources was made by staff, assistants and graduates. However, the relatively high percentage of readers who rarely or never referred to these sources, was rather disappointing. Furthermore, there seems no justification for the large amount of undergraduates who claimed no knowledge about availability of this material.

Although this literature may not prove beneficial during initial stages of study, at least some knowledge should be gained about the value of such material as an information source, and means of locating it.

5.5 Special Collections

In addition to the more general literature available in the library, a sizeable portion of the collection includes research publications, university reports and catalogues, I.B.M. computer programmes, dissertations by the faculty's graduate students, and various statistical reports. No significant results emerged from examination of these collections and similar patterns of use were established for all sources checked. Therefore, Table 16 presents only one example of reference made to such publications, that of the Israel Central Bureau of Statistics. For all cases, staff and assistants were the main clients, and a somewhat high percentage of non-use was recorded for all groups.

TABLE 16

Frequency of Use of the Israel Central Bureau of Statistics Publications According to Reader Category (Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	17	17	12	0
Sometimes	34	19	18	0
Rarely	20	26	29	35
Never	26	36	41	57
Did not know it existed	3	2	0	9
Total	100	100	100	100
Number of Respondents	(35)	(42)	(17)	(23)

95% Confidence limits for the above results are provided in Table F11.

5.6 Scope of Library Collection

This section deals with user's satisfaction regarding the scope of existing books, journals, and research material. Table 17 measures the rate of satisfaction for available books, resulting in 49 percent staff, 51 percent assistants, 44 percent graduates, and 30 percent undergraduates, stating that they were highly and quite satisfied. One should note that for all categories, a high percentage of respondents were at least fairly satisfied and a relatively small percentage in all groups, found cause for some dissatisfaction.

TABLE 17

Satisfaction Concerning Scope of Book Collection
According to Reader Category

(Percentages)

User's Satisfaction	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	30	24	22	0
Quite satisfied	18	27	22	30
Fairly satisfied	30	30	33	45
Somewhat dissatisfied	21	20	22	20
Highly dissatisfied	0	0	0	5
Total	100	100	100	100
Number of Respondents	(33)	(41)	(18)	(20)

95% confidence limits for the above results are provided in Table F12.

Investigating the scope of available journals, revealed a somewhat higher level of staff satisfaction (69 percent) than was recorded for that of the book collection. Results for other respondents were: 55 percent assistants, 54 percent graduates, and 36 percent undergraduates all being at least quite satisfied. Only one person out of the 103 respondents who answered this question, found cause for high dissatisfaction. (see Table 13).

TABLE 18

Satisfaction Concerning Journal Scope, According to Reader Category
(Percentages)

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	36	20	15	12
Quite satisfied	33	35	39	24
Fairly satisfied	12	30	31	59
Somewhat dissatisfied	15	15	15	6
Highly dissatisfied	3	0	0	0
Total	100	100	100	100
Number of Respondents	(33)	(40)	(13)	(17)

95% confidence limits for the above results are given in Table F13.

Table 19 yields significant results relating to the scope of research material, especially for the staff's level of satisfaction. Although 67 percent of this group were at least fairly satisfied, a rather high 33 percent voiced some dissatisfaction. Similar opinions were expressed by the assistants, though their rate of fair satisfaction amounted to 74 percent. The comparatively high satisfaction rate for both graduates (82 percent) and undergraduates (80 percent) is assumed as result of their primary use of text books and assigned study material.

TABLE 19

Satisfaction Concerning Scope of Research Material, According to Reader Category

(Percentages)

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	17	14	9	0
Quite satisfied	30	20	36	40
Fairly satisfied	20	40	36	40
Somewhat dissatisfied	27	20	18	10
Highly dissatisfied	7	6	0	10
Total	100	100	100	100
Number of respondents	(30)	(35)	(11)	(10)

95% confidence limits for the above results are given in Table F14.

DISCUSSION

Reviewing the overall scope of the library collection, we conclude that certain deficiencies are apparent in the book section, especially where copies of student texts are concerned. Most of the criticism pointed at insufficient quantities for meeting the user's demand. When checking whether, at any time, staff found it necessary to restrict class assignments due to library inadequacies, 62 percent of the total 71 respondents had not resorted to such action. However, we felt that the 38 percent who replied in the affirmative, supports our assumption that larger amounts of texts will have to be acquired. Furthermore, some expression of dissatisfaction was levelled at the great lag time which exists between ordering and receipt of new books.

Journal holdings proved sufficiently satisfactory in their present state and there was no cause for any drastic changes at this stage. However, a definite gap exists between supply and demand in relation to research material. Numerous projects were beeing conducted at present

and we foresee an increase in the near future. Greater emphasis will have to be placed upon developing this area of the collection, especially where Israeli research publications are concerned.

Notwithstanding the above comments, it was worth noting that 98 percent of the 81 staff and assistants benefitted, at least partially, from available library material which had not been specifically ordered by individuals.

5.7 Photocopying Services

Photocopying services for staff and assistants within the faculty are operated through library channels. Students make use of those services provided by the Central Library for a nominal fee. However, the library reproduces course material when additional copies are required. These photocopies are loaned to students on the same basis as books. Table 20 shows that over 85 percent of staff and assistants were at least fairly satisfied with the service, and 92 percent of graduates were of the same opinion. However, a marked decrease in satisfaction level was recorded for undergraduates, 69 percent.

TABLE 20

Satisfaction Concerning Photocopying Services, According to Reader Category

(Percentages)

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	28	35	25	6
Quite satisfied	41	24	25	13
Fairly satisfied	21	27	41	50
Somewhat dissatisfied	7	12	8	13
Highly dissatisfied	3	3	0	19
Total	100	100	100	100
Number of Respondents	(29)	(34)	(12)	(16)

95% confidence limits for the above results are given in Table F15.

DISCUSSION

The somewhat high 31 percent of undergraduate dissatisfaction is considered justifiable. The present system does not provide sufficient facilities for students to reproduce material quickly and cheaply. Although remarks were mainly aimed at services provided by the Central Library, we feel such criticism worthy of mention and would recommend that suitable photocopying arrangements be considered, both at that library and within the faculty.

5.8 Reading Room Utilization

We are capable of accomodating 80 persons in the two available reading rooms and cramped conditions are foreseeable in the near future. Table 21 shows that although 38 percent of the 1058 library visits involved reading room use (as a main purpose or combined with other tasks), more than 15 percent of users availed themselves of this facility for studying their own notes. Examining the factors which discourage reading room use, we found that noise, excessive heat or cold, and bad lighting were among the major causes. Quite a number of students complained about the early closing hours (a fuller discussion regarding this topic has been dealt with in Section 5.1).

TABLE 21

Purpose of Library Visit According to the Various Faculties

(Percentages)

Purpose of Visit	FACULTY			
	Industrial & Management Eng.	Other Technion Faculties	External Readers	Total %
Borrow and/or return a book	46	51	36	46
Reading library material in reading room	24	26	39	24
Borrow and/or return a book and reading library material in the reading room	4	6	7	4
Using reading room for studying with own notes	15	9	11	14
Borrow and/or return a book, and use reading room for studying with own notes	1	2	0	1
Using reading room for studying library material and own notes	4	4	0	4
Borrow and/or return a book, and using reading room for studying library material and own notes	1	2	0	1
Other reason	6	1	7	5
Borrow and/or return a book and visit to library for some other reason	1	0	0	1
Total	100	100	100	100
Number of visits	(871)	(159)	(28)	(1058)

DISCUSSION

Owing to limited seating accomodation, all visits to the reading rooms should be restricted to the use of library material. Therefore, suitable alternative arrangements must be provided by the faculty, thus enabling readers to study their own notes, read newspapers and chat. This system would also serve to reduce the present noise in the library. Before writing this report, we had already installed air-conditioning in the suggested area and are now investigating the matter of poor lighting.

5.9 Special Services Rendered to Staff

A number of services checked were those relevant to staff only. The library under study operates a weekly Acquisition Abstract service detailing new book and journal arrivals. This service is unique to our library and has aroused great interest in other Technion faculties, universities and industrial circles. Since preparing this material is time consuming, it was therefore important to assess its utility. We found that 80 percent of 81 respondents read the abstracts weekly and most times, 14 percent referred to them occasionally and only a small 7 percent admitted not reading them at all. It was interesting to note that although not all staff read the abstracts regularly, 88 percent thought the service was a useful one. We therefore feel it warrants the effort and time involved in their preparation, and intend continuing this service.

5.10 The Teaching Function of the Library

A problem facing majority of students - graduates and undergraduates - is their lack of knowledge about library use and how to search for information. Unless positive steps are taken to remedy the situation, we foresee increased problems especially when the Technion changes to the Credit System and students will be compelled to use libraries to a greater extent. Staff's opinion was requested concerning the necessity for implementing formal instruction in library use and interesting results were obtained.

80 percent of staff recommended such instruction take place during the first year of undergraduate studies.

One should take special note of the students' replies, especially those from the undergraduate group, where 73 percent were willing to receive instruction during the first study year. Preference for the instruction during the freshman year was also recorded for assistants and graduates, 50 percent from each group.

TABLE 22

Recommended Year for Instructing Students in Library Use, According to Reader Category

(Percentages)

Year of Study	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
No - Unnecessary	3	0	6	0
1st year	80	50	50	73
2nd year	3	16	0	15
3rd year	9	14	11	12
4th year	0	5	0	0
During graduate studies	0	9	22	0
Other*	6	7	11	0
Total	100	100	100	100
Number of Respondents	(35	(44)	(18)	(26)

* Replies received from this category suggested various methods of instruction, but not as part of the formal curriculum.

95% confidence limits for the above results are provided in Table F16.

DISCUSSION

One of the major steps towards promoting and encouraging library use is instruction through formal courses. We are of the opinion that these classes should be included in the freshman year and become a permanent feature of the university's educational programme. In addition to library tours and lectures, we propose preparing and distributing a handbook or booklet describing the facilities and procedures of the faculty library.

We are convinced that familiarizing students with the resources of the library and their effective use will prove a great asset in helping to alleviate some of the causes for dissatisfaction.

5.11 The Card Catalogues and Classification System

The structure of the card catalogues, classification system and location of books on the shelves, are all factors requiring a great deal of consideration and planning, as these are important tools which aid readers in library use. The catalogue is composed of three main sections - key to the subjects, author and subject indexes. Separate catalogues are available for the journal holdings, technical reports and various special collections . Over 90 percent of all categories checked, were at least fairly satisfied with the existing system (see Table 23).

TABLE 23

Satisfaction Concerning Card Catalogues, According to Reader Category (Percentages)

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	38	16	25	5
Quite satisfied	28	46	50	35
Fairly satisfied	28	35	25	50
Somewhat dissatisfied	7	3	0	10
Highly dissatisfied	0	0	0	0
Total	100	100	100	100
Number of Respondents	(29)	(37)	(16)	(20)

95% confidence limits for the above results are provided in Table F17.

The Universal Decimal Classification system (U.D.C.) is the one employed by our library and all material is shelved accordingly. Table 24 indicates that 78 percent of staff were at least fairly satisfied with the system, as against 22 percent who voiced some dissatisfaction. For the assistant groups, 88 percent were at least fairly satisfied, as against 12 percent who found some cause for dissatisfaction.

No high rate of dissatisfaction was recorded by students.

TABLE 24

Satisfaction Cencerning Classification System, According to Reader Category

(Percentages)

Satisfaction Level	READER CATEGORY			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	25	12	17	5
Quite satisfied	34	26	72	29
Fairly satisfied	19	51	11	57
Somewhat dissatisfied	16	9	0	10
Highly dissatisfied	6	2	0	0
Total	100	100	100	100
Number of respondents	(32)	(43)	(18)	(21)

95% confidence limits for the above results are provided in Table F18.

DISCUSSION

Difficulties encountered in the classification system were not pointed at the card catalogues but rather at locating books on the shelves. This is partly due to the system itself, where on occasion, rows of confusing numerals appear on the book. However, in most cases, difficulties emerge because of the reader's lack of understanding about how the system operates. For a library the size of ours (almost 15,000 volumes) this is a workable system, although not ideal. Staff, assistants and graduates

permitted free access to the open shelves, whereas undergraduate students are served by the librarian. We therefore presume that staff and assistant dissatisfaction was due to their search occasionally ending unsuccessfully Inability to locate material is confirmed by the somewhat high 70 percent of staff who requested the librarian's assistance on more than most occasions, 67 percent of assistants gave the same answer.

5.12 Use made of Other Libraries

Various stages of this study have established user's satisfaction as quite favourable regarding scope of library material and general service efficiency. Nevertheless, we measured user's behaviour in relation to frequency of other library visits. For all types of libraries checked, results showed that most of the population called at other libraries less than once a month, if at all. The only significant comparison was recorded for use of the Technion's Central Library and our findings are illustrated in Table 25. It is interesting to note that besides the undergraduate students, who emerged as major clients, other reader groups visited that library at the most, less than once a month.

TABLE 25

Frequency of Visits to the Technion Central Library, According to Reader Category

(Percentages)

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Daily	0	0	0	4
Three times a week	0	0	0	4
Once a week	0	2	0	27
Twice a month	3	0	0	8
Once a month	9	20	6	19
Less than once a month	35	49	25	19
Only before examinations	0	0	13	12
Never	53	29	56	8
Total Number of Respondents	100 (34)	100 (41)	100 (16)	100 (26)

95% confidence limits for the above results are provided in Table F19.

DISCUSSION

The general trend swayed towards use of the specialized faculty library. Even the percentage of undergraduates who used other libraries was insignificant except for visits at the Central Library. Notwithstanding some short-comings in a number of our existing services, it appears that, in most cases, we have been able to meet the customers demands, and that only occasional visits were made to other libraries. Examining the overall rate of satisfaction revealed that more than 90 percent of staff, assistants and graduates were more than quite satisfied with the way library staff handled their requests. 62 percent of undergraduates expressed the same opinion. Moreover, 87 percent staff, 73 percent assistants, 95 percent graduates and 62 percent undergraduates felt that when departing from the library, they were at least quite satisfied with services and facilities.

CHAPTER VI CONCLUSIONS

The development of academic libraries is being greatly influenced by the colossal growth in the quantity of published material and by the expansion of higher education. In order to provide efficient services, and ensure user's satisfaction, it becomes necessary, at the outset, to examine the effectiveness and use made of existing services. It was for this reason that our research was undertaken and an attempt made to explore, analyse and describe, key aspects in the provision and use of services rendered by the Industrial and Management library. This is the first study of its kind to be conducted at the Technion.

Reader's attitudes regarding scope of the library collection and available facilities, offer some insight as to what remedial action should be adopted for improving services and encouraging library use. Results indicated that overall satisfaction rate was more than fairly high, except for the undergraduate group. Hence, a concentrated effort towards improving facilities and resources which affect these users, will have to be made. In addition, larger quantities of assigned texts must be provided

as well as improved photocopying services. Furthermore, we attach great importance to any system which would successfully incorporate the instruction of library use as part of the formal educational programme.

The lack of a well-established research library within the Technion, compells us to continue performing this function, at least for our own requirements. However, for bridging the existing gap between supply and demand of such research material, greater emphasis must be placed upon all developmental aspects related to this information source.

We see this study's most useful contribution as one which will enlighten both library staff and administrators regarding what methods to adopt for measuring effective library use. In addition, it will serve as a guide for future decision-making and library planning. Although we can claim that some progress has been made towards improving services, it must also be admitted that far more still remains to be done. We recommend conducting future research on user's behaviour before examinations, as compared with the current study. It would also prove interesting to determine the efficiency of technical services, loan policies, and acquisition policy.

APPENDIX A

READER QUESTIONNAIRE

Please check an x in the appropriate square.

For Computer Use

FACULTY

- ☐ 1. Industrial and Management Engineering
- ☐ 2. Other Technion Faculty
- ☐ 3. Outside Reader (not a student or faculty member at Technion)
  Specify . . . . . .

[1]

[2]

STATUS

- ☐ 1. Lecturer or above
- ☐ 2. Graduate Student (M.Sc. or Ph.d)
- ☐ 3. Undergraduate Student (B.Sc.)
- ☐ 4. Other (not a student or faculty member at any other academic institution)

[3]

PURPOSE OF PRESENT VISIT TO LIBRARY

(YOU MAY CHECK ONE OR MORE SQUARES AS REQUIRED)

- ☐ 1. To borrow and/or return a book
- ☐ 2. To read material from the library in the reading room
- ☐ 3. To use reading room for study with own notes
- ☐ 4. Other reason. Specify . . . . . .

[ ][ ] 4 - 5

[ ][ ] 6 - 7

[ ][ ] 8 - 9

APPENDIX B

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY

FACULTY OF INDUSTRIAL & MANAGEMENT ENGINEERING LIBRARY SURVEY

FACULTY QUESTIONNAIRE

INSTRUCTIONS

1. Most of the questions require no more than a check mark (x) and will take little time to answer. Please read the questions carefully and complete ALL sections.

2. The completed questionnaire should be returned to Ruth Joffe, Librarian, Faculty of Industrial and Management Engineering, Technion.

THE SUCCESS OF THIS SURVEY DEPENDS ENTIRELY UPON YOUR CO-OPERATION - THANK YOU!

PART I - GENERAL INFORMATION

a) What is your academic grading?

1. ( ) Professor
2. ( ) Associate Professor
3. ( ) Senior Lecturer
4. ( ) Lecturer
5. ( ) Instructor or Assistant

b) What is your specialization area?

1. ( ) Industrial Engineering
2. ( ) Operations Research
3. ( ) Economics
4. ( ) Management and Behavioural Sciences

c) On what basis are you employed?

1. ( ) Full-time
2. ( ) Part-time

PART II - LIBRARY SERVICES

a) With what frequency, on the average, did you use the following library services during the last semester?

	daily	3 times a week	weekly	twice a month	once a month	less than once a month	never
	(1)	(2)	(3)	(4)	(5)	(6)	(8)
[8] Books	( )	( )	( )	( )	( )	( )	( )
[9] Journals	( )	( )	( )	( )	( )	( )	( )
[10] Looking up information for research	( )	( )	( )	( )	( )	( )	( )
[11] To browse	( )	( )	( )	( )	( )	( )	( )
[12] Reading library material in the reading room	( )	( )	( )	( )	( )	( )	( )
[13] Using reading room for study with own notes	( )	( )	( )	( )	( )	( )	( )
[14] Other reasons: please specify	( )	( )	( )	( )	( )	( )	( )

b) With what frequency do you make use of other libraries?

	daily	3 times a week	weekly	twice a month	once a month	less than once a month	never
	(1)	(2)	(3)	(4)	(5)	(6)	(8)
[15] Technion Central Library	( )	( )	( )	( )	( )	( )	( )
[16] Other faculty libraries at Technion	( )	( )	( )	( )	( )	( )	( )
[17] Other university libraries	( )	( )	( )	( )	( )	( )	( )
[18] Specialized libraries in Israel	( )	( )	( )	( )	( )	( )	( )
[19] Libraries abroad	( )	( )	( )	( )	( )	( )	( )

c) How often do you refer to the following information sources?

	Often	Sometimes	Rarely	Never	Did not know it existed
	(1)	(2)	(3)	(4)	(5)
20 Abstracts	( )	( )	( )	( )	( )
21 Subject bibliographies	( )	( )	( )	( )	( )
22 Reprints	( )	( )	( )	( )	( )
23 Technical Reports	( )	( )	( )	( )	( )
24 Rand Corp. publications	( )	( )	( )	( )	( )
25 I.B.M. Computer Programmes	( )	( )	( )	( )	( )
Yearbooks or annuals	( )	( )	( )	( )	( )
27 Publications of the Central Bureau of Statistics	( )	( )	( )	( )	( )
28 University catalogues	( )	( )	( )	( )	( )
29 M.Sc. or Ph.d. theses written by graduates in the Faculty of Industrial & Management Eng.	( )	( )	( )	( )	( )
30 Films	( )	( )	( )	( )	( )

d) How often do you request the librarian's assistance when searching for literature?

1. ( ) generally
2. ( ) occasionally
3. ( ) on rare occasions
4. ( ) never

e) Do you feel that the library should instruct students in the use of libraries and information searching?

1. ( ) no
2. ( ) yes - during first study year
3. ( ) yes - during second study year
4. ( ) yes - during third study year
5. ( ) yes - during fourth study year
6. ( ) yes - during graduate studies
7. ( ) other - please specify: 32

f) When requesting service from the library staff, how long do you usually have to wait before somebody attends to you?

1. ( ) served immediately
2. ( ) wait about 10 minutes
3. ( ) wait more than 10 minutes

33

g) To what extent have your lectures, seminars and course bibliographies benefitted from material found in the library, which had not been specially ordered by you?

1. ( ) to a large extent
2. ( ) only slightly
3. ( ) not at all

34

h) Have you been obliged, at any time, to restrict class assignments due to certain inadequacies in the library?

1. ( ) yes
2. ( ) no

35

i) If your previous answer was YES, please explain your difficulties _____

_____

_____

j) How often do you manage to read the weekly LIBRARY ACQUISITION ABSTRACTS which are prepared by the librarian for the faculty staff?

1. ( ) every week
2. ( ) most times
3. ( ) occasionally
4. ( ) never

36

k) To what extent have you found the above-mentioned abstracts useful in your work?

1. ( ) extremely useful
2. ( ) occasionally useful
3. ( ) completely useless

37

l) When translating and editing research papers you have written, have you, at any time, requested the librarian's assistance in preparing this work?

38 1. ( ) yes

2. ( ) no

m) Have you ever been compelled to leave the library for any of the undermentioned reasons? (You may check more than one item if necessary).

41 1. ( ) Lack of seating accomodation

42 2. ( ) Noise

43 3. ( ) Bad Ventilation

44 4. ( ) Excessive heat or cold

5. ( ) Deficient lighting

46 6. ( ) Other reason: Please specify . . . . . .

n) How would you rate your satisfaction regarding the following library services?

	highly satisfied	quite satisfied	fairly satisfied	somewhat dissatisfied	highly dissatisfied
	(1)	(2)	(3)	(4)	(5)
47 Library closing hours	( )	( )	( )	( )	( )
48 Degree to which classification system enables locating books on shelves	( )	( )	( )	( )	( )
49 Organizational structure of the catalogues	( )	( )	( )	( )	( )
50 Borrowing regulations	( )	( )	( )	( )	( )
51 Scope of library collection	( )	( )	( )	( )	( )
52 Scope of journal holdings	( )	( )	( )	( )	( )
53 Scope of existing material for your research work	( )	( )	( )	( )	( )
54 The handling of "reserved" and assigned texts for your students	( )	( )	( )	( )	( )
55 The handling of new orders and other material	( )	( )	( )	( )	( )
56 Photocopy service handled by <u>our</u> library	( )	( )	( )	( )	( )
57 Efficiency with which library staff handles your requests	( )	( )	( )	( )	( )
58 Your general impression when leaving the library	( )	( )	( )	( )	( )

o) In the event of your having indicated some degree of dissatisfaction in any of the previously mentioned items, kindly describe your problem:

p) If you have any additional specific suggestions for improving the existing library services and facilities, please indicate your recommendations in the space provided below: (You may attach an additional sheet of paper, if required).

A P P E N D I X C

TECHNION - ISRAEL INSTITUTE OF TECHNOLOGY
FACULTY OF INDUSTRIAL & MANAGEMENT ENGINEERING SURVEY

To: Members of the Faculty Academic Staff

As a means of determining the effectiveness of the use made of our faculty library, we are presently conducting a survey in the hope of obtaining results which will enable us to improve the existing library services and facilities.

We would greatly appreciate your completing the attached questionnaire and answering all the questions carefully. Accurate information will be very useful to us in trying to make our service better for you.

The questionnaire is designed in a clear and simple manner and should not take up a great deal of your time. All the information received will be kept strictly confidential.

Kindly return the completed questionnaire, as soon as possible, to:

Ruth Joffe, Librarian, Faculty of Industrial & Management Engineering, Technion, Haifa.

YOUR CO-OPERATION WILL HELP THE LIBRARY TO HELP YOU !

Sincerely yours,

Ruth Joffe
Faculty Librarian

APPENDIX D

NOTES CONCERNING THE STUDENT QUESTIONNAIRE

The Faculty and Student questionnaire, being almost identical, eliminate the necessity for including a separate diagram of the form sent to students. Only the first question in the General Information Section differs, and has been stated below. Additions and omissions are also presented.

PART I. General Information

What category of student are you?

6. ( ) Undergraduate
7. ( ) Graduate

PART II

a) An additional column was included in the question on "how often library services are used". This became column (7) and was headed: "just before examination time".

b) An additional column was included in the question on "how often other libraries are used". This became column (7) and was headed: "just before examination time".

Two further questions which were included in the student questionnaire were:

1) When ordering a book in advance, is the library able to definitely promise availability of the book on the requested date?

1. ( ) on all occasions
2. ( ) on most occasions
3. ( ) on some occasions
4. ( ) very rarely
5. ( ) never

2) Has the library fulfilled its promise and supplied the book on the requested date?

1. ( ) on all occasions
2. ( ) on most occasions
3. ( ) on some occasions
4. ( ) very rarely
5. ( ) never

The undermentioned questions appearing on the Faculty questionnaire were omitted from the student forms as these queries were irrelevant in this case

Part I - questions (b) and (c)
Part II - questions (g), (h), (i), (j), (k), (l).

The Covering Letter

The identical covering letter was sent to faculty and students. The latter, and any others which were distributed by mail, included a self-addressed stamped return evelope.

APPENDIX E

FOLLOW - UP LETTER

May 3, 1971

Enclosed is a copy of a letter and questionnaire originally sent to you on the 20th of April, 1971. Many participants in the survey have responded, but perhaps due to the holidays,you have somehow overlooked our request.

Since we are attempting to make this study as complete as possible, we hope you will take this opportunity to return the questionnaire as soon as possible.

Thank you again for your co-operation.

Sincerely yours,

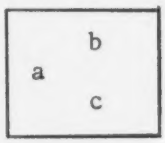
Ruth Joffe
Faculty Librarian.

APPENDIX F

Tables presented in this section include two-sided 95% confidence limits for the results obtained from the main survey. These have been calculated according to a binomial hypothesis using Hald[10].

The following explanation will assist in studying the tables.

Each block within the tables contains three numbers:



where,

a = the percentage resulting from the main survey
b = the upper limit of a 95% confidence interval
c = the lower limit of a 95% confidence interval.

TABLE F1

95% Confidence Limits for Frequency of Using Book Facilities During Last Semester, for the Various Reader Categories

Book Use Frequency	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Daily	0	9 (22 / 3)	0	0
Three times a week	20 (37 / 8)	36 (52 / 22)	6 (27 / 1)	4 (20 / 1)
Once a week	31 (49 / 17)	36 (52 / 22)	17 (41 / 4)	35 (56 / 17)
Twice monthly	31 (49 / 17)	5 (15 / 1)	22 (48 / 6)	12 (30 / 2)
Once a month	6 (19 / 1)	5 (15 / 1)	33 (59 / 13)	19 (39 / 6)
Less than once a month	3 (15 / 1)	5 (15 / 1)	17 (41 / 4)	0
Only before examinations	0	0	0	19 (39 / 6)
Never	9 (23 / 2)	5 (15 / 1)	6 (27 / 1)	12 (30 / 2)
Number of respondents	(35)	(44)	(18)	(26)

TABLE F2

95% Confidence Limits for Satisfaction Concerning Borrowing Services, According to Reader Category

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	55 (72 / 36)	38 (54 / 24)	20 (48 / 4)	18 (40 / 5)
Quite satisfied	33 (52 / 18)	43 (59 / 28)	53 (79 / 27)	18 (40 / 5)
Fairly satisfied	9 (24 / 2)	14 (28 / 5)	13 (41 / 2)	46 (68 / 24)
Somewhat dissatisfied	3 (15 / 1)	5 (16 / 1)	13 (41 / 2)	14 (35 / 3)
Highly dissatisfied	0	0	0	5 (23 / 1)
Number of respondents	(33)	(42)	(22)	(15)

TABLE F3

95% Confidence Limits for Ability to Accept Advance Orders According to Student Category

Acceptance Ability	Student Category	
	Graduates	Undergraduates
On all occasions	31 (59 / 11)	5 (22 / 1)
On most occasions	56 (80 / 30)	50 (72 / 28)
On some occasions	13 (38 / 2)	36 (59 / 17)
Rarely	0	9 (29 / 1)
Never	0	0
Number of respondents	(16)	(22)

TABLE F4

95% Confidence Limits for Ability to Supply Advance Orders, According to Student Category

Supply Ability	Student Category	
	Graduates	Undergraduates
On all occasions	56 (80 / 30)	32 (55 / 14)
On most occasions	38 (65 / 15)	59 (79 / 36)
On some occasions	6 (30 / 1)	5 (22 / 1)
Rarely	0	5 (22 / 1)
Never	0	0
Number of respondents	(16)	(22)

TABLE F5

95% Confidence Limits for Time Elapsing Between User's Arrival and Commencement of Service, According to Reader Category

Commencement of Service	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Served immediately	95 89 68	89 77 63	99 88 64	87 70 47
Served within 10 minutes	26 11 3	38 23 12	36 12 2	48 26 10
Served after 10 minutes	0	0	0	22 4 1
Number of Respondents	(35)	(44)	(17)	(23)

TABLE F6

95% Confidence Limits for Journal Use Frequency,
According to Reader Category

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Daily	3 (15 / 1)	5 (17 / 1)	0	0
Three times a week	14 (30 / 5)	15 (30 / 6)	6 (30 / 1)	0
Once a week	29 (46 / 14)	35 (52 / 21)	13 (38 / 2)	0
Twice monthly	34 (47 / 17)	18 (32 / 8)	13 (38 / 2)	10 (32 / 1)
Once a month	9 (22 / 2)	18 (32 / 8)	6 (30 / 1)	10 (32 / 1)
Less than once a month	6 (19 / 1)	8 (20 / 2)	25 (55 / 8)	25 (49 / 9)
Only before examinations	0	0	6 (30 / 1)	10 (32 / 1)
Never	6 (19 / 1)	2 (13 / 1)	31 (59 / 11)	45 (69 / 23)
Number of respondents	(35)	(40)	(16)	(20)

TABLE F7

95% Confidence Limits for Frequency of Abstract Use,
According to Reader Category

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	28 (46 / 14)	17 (31 / 7)	0	0
Sometimes	38 (56 / 21)	31 (47 / 17)	24 (50 / 7)	18 (39 / 5)
Rarely	19 (36 / 7)	21 (37 / 10)	35 (62 / 14)	18 (39 / 5)
Never	3 (16 / 1)	19 (34 / 9)	29 (56 / 10)	13 (34 / 3)
Did not know it existed	13 (29 / 4)	12 (25 / 4)	12 (36 / 2)	52 (73 / 31)
Number of respondents	(32)	(42)	(17)	(23)

TABLE F8

95% Confidence Limits for Frequency of Subject Bibliography Use, According to Reader Category

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	15 (30 / 5)	19 (33 / 8)	6 (27 / 1)	9 (30 / 1)
Sometimes	38 (57 / 22)	40 (56 / 25)	50 (74 / 26)	13 (34 / 3)
Rarely	29 (48 / 15)	14 (28 / 5)	17 (40 / 3)	18 (39 / 5)
Never	6 (19 / 1)	21 (36 / 9)	28 (54 / 10)	18 (39 / 5)
Did not know it existed	12 (28 / 3)	7 (19 / 2)	0	44 (66 / 23)
Number of respondents	(34)	(43)	(18)	(23)

TABLE F9

95% Confidence Limits for Frequency of Reprint Use,
According to Reader Category

Frequence of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	24 (41 / 11)	8 (20 / 1)	12 (36 / 2)	5 (24 / 1)
Sometimes	38 (56 / 22)	35 (52 / 21)	35 (62 / 14)	19 (42 / 5)
Rarely	27 (44 / 13)	43 (59 / 27)	12 (36 / 2)	10 (30 / 1)
Never	3 (15 / 1)	15 (30 / 6)	35 (62 / 14)	19 (42 / 5)
Did not know it existed	9 (22 / 1)	0	6 (29 / 1)	48 (70 / 26)
Number of respondents	(34)	(40)	(17)	(21)

TABLE F10

95% Confidence Limits for Frequency of Technical Reports Used According to Reader Category

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	6 (20 / 1)	3 (13 / 1)	0	0
Sometimes	24 (42 / 11)	3 (13 / 1)	6 (30 / 1)	8 (27 / 1)
Rarely	18 (35 / 7)	18 (33 / 8)	25 (52 / 7)	21 (42 / 7)
Never	39 (58 / 23)	58 (72 / 40)	56 (80 / 30)	25 (47 / 10)
Did not know it existed	12 (28 / 3)	20 (35 / 9)	13 (38 / 2)	46 (67 / 26)
Number of Respondents	(33)	(40)	(16)	(24)

TABLE F11

95% Confidence Limits for Frequency of Use of Israel Central Bureau of Statistics' Publications, According to Reader Category

Frequence of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Often	17 (33 / 6)	17 (31 / 7)	12 (36 / 2)	0
Sometimes	34 (52 / 19)	19 (34 / 9)	18 (43 / 4)	0
Rarely	20 (37 / 8)	26 (41 / 13)	29 (56 / 10)	35 (57 / 16)
Never	26 (43 / 13)	36 (52 / 21)	41 (67 / 18)	57 (77 / 35)
Did not know it existed	3 (15 / 1)	2 (12 / 1)	0	9 (28 / 1)
Number of respondents	(35)	(42)	(17)	(23)

TABLE F12

95% Confidence Limits for Satisfaction Concerning Scope of Book Collection According to Reader Category

User's Satisfaction	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	30 (49 / 16)	24 (40 / 12)	22 (48 / 6)	0
Quite satisfied	18 (35 / 7)	27 (43 / 14)	22 (48 / 6)	30 (54 / 12)
Fairly satisfied	30 (49 / 16)	30 (45 / 16)	33 (59 / 13)	45 (69 / 23)
Somewhat dissatisfied	21 (39 / 9)	20 (35 / 9)	22 (48 / 6)	20 (44 / 6)
Highly dissatisfied	0	0	0	5 (25 / 1)
Number of respondents	(33)	(41)	(18)	(20)

TABLE F13

95% Confidence Limits for Satisfaction Concerning Journal Scope, According to Reader Category

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	36 (55 / 20)	20 (36 / 9)	15 (45 / 2)	12 (36 / 2)
Quite satisfied	33 (52 / 18)	35 (52 / 21)	39 (68 / 14)	24 (50 / 7)
Fairly satisfied	12 (28 / 3)	30 (47 / 17)	31 (61 / 9)	59 (82 / 33)
Somewhat satisfied	15 (32 / 5)	15 (30 / 6)	15 (45 / 2)	6 (29 / 1)
Highly dissatisfied	3 (15 / 1)	0	0	0
Number of respondents	(33)	(40)	(13)	(17)

TABLE F14

95% Confidence Limits for Satisfaction Concerning Scope of Research Material According to Reader Category

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	17 (34, 5)	14 (30, 5)	9 (41, 1)	0
Quite satisfied	30 (49, 15)	20 (37, 8)	36 (69, 11)	40 (74, 12)
Fairly satisfied	20 (39, 8)	40 (58, 24)	36 (69, 11)	40 (74, 12)
Somewhat dissatisfied	27 (46, 12)	20 (37, 8)	18 (52, 2)	10 (45, 1)
Highly dissatisfied	7 (22, 1)	6 (20, 1)	0	10 (45, 1)
Number of respondents	(30)	(35)	(11)	(10)

TABLE F15

95% Confidence Limits for Satisfaction Concerning Photocopying Services, According to Reader Category

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	28 (47 / 13)	35 (54 / 20)	25 (57 / 6)	6 (30 / 1)
Quite satisfied	41 (61 / 24)	24 (41 / 11)	25 (57 / 6)	13 (38 / 2)
Fairly satisfied	21 (40 / 8)	27 (44 / 13)	41 (72 / 15)	50 (75 / 25)
Somewhat dissatisfied	7 (23 / 1)	12 (28 / 3)	8 (39 / 1)	13 (38 / 2)
Highly dissatisfied	3 (18 / 1)	3 (16 / 1)	0	19 (46 / 4)
Number of respondents	(29)	(34)	(12)	(16)

TABLE F16

95% Confidence Limits for Recommended Year for Instructing Students in Library Use, According to Reader Category

Year of Study	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
No-unnecessary	3 (15 / 1)	0	6 (27 / 1)	0
1st year	80 (92 / 63)	50 (65 / 35)	50 (74 / 26)	73 (88 / 52)
2nd year	3 (15 / 1)	16 (29 / 7)	0	15 (35 / 4)
3rd year	9 (22 / 2)	14 (27 / 5)	11 (35 / 1)	12 (30 / 2)
4th year	0	5 (15 / 1)	0	0
During graduate studies	0	9 (22 / 3)	22 (48 / 6)	0
Other*	6 (19 / 1)	7 (18 / 1)	11 (35 / 1)	0
Number of respondents	(35)	(44)	(18)	(26)

*Replies received from this category suggested various methods of instruction, but not as part of the formal curriculum.

TABLE F17

95% Confidence Limits for Satisfaction Concerning Card Catalogues, According to Reader Category

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	38 (58 / 21)	16 (32 / 6)	25 (52 / 7)	5 (25 / 1)
Quite satisfied	28 (47 / 13)	46 (63 / 30)	50 (75 / 25)	35 (59 / 15)
Fairly satisfied	28 (47 / 13)	35 (53 / 20)	25 (52 / 7)	50 (73 / 27)
Somewhat dissatisfied	7 (23 / 1)	3 (14 / 1)	0	10 (32 / 1)
Highly dissatisfied	0	0	0	0
Number of respondents	(29)	(37)	(16)	(20)

TABLE F18

95% Confidence Limits for Satisfaction Concerning Classification System According to Reader Category

Satisfaction Level	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Highly satisfied	25 (43 / 12)	12 (25 / 4)	17 (41 / 4)	5 (24 / 1)
Quite satisfied	34 (53 / 19)	26 (40 / 13)	72 (90 / 47)	29 (52 / 11)
Fairly satisfied	19 (36 / 7)	51 (67 / 35)	11 (35 / 1)	57 (78 / 34)
Somewhat dissatisfied	16 (32 / 5)	9 (22 / 3)	0	10 (30 / 1)
Highly dissatisfied	6 (21 / 1)	2 (12 / 1)	0	0
Number of respondents	(32)	(43)	(18)	(21)

TABLE F19

95% Confidence Limits for Frequency of Visits to the Technion Central Library, According to Reader Category

Frequency of Use	Reader Category			
	Staff	Assistants	Graduates	Undergraduates
Daily	0	0	0	4 (20 / 1)
Three times a week	0	0	0	4 (20 / 1)
Once a week	0	2 (13 / 1)	0	27 (48 / 12)
Twice a month	3 (15 / 1)	0	0	8 (25 / 1)
Once a month	9 (23 / 1)	20 (35 / 8)	6 (30 / 1)	19 (40 / 6)
Less than once a month	35 (54 / 20)	49 (65 / 33)	25 (52 / 7)	19 (40 / 6)
Only before examinations	0	0	13 (38 / 2)	12 (30 / 2)
Never	53 (70 / 35)	29 (45 / 16)	56 (80 / 30)	8 (25 / 1)
Number of respondents	(34)	(41)	(16)	(26)

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